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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
BENOIT, ESTHER	

ART UNIT	PAPER NUMBER
2442	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/537,488	LUO ET AL.	
	Examiner	Art Unit	
	ESTHER BENOIT	2442	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *11/18/2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-4 and 6-14* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-4 and 6-14* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendments

1. Claims 1-4 and 6-14 are pending in this application. Claims 1 and 14 have been amended. Claim 5 has been deleted.

Response to Arguments

2. Applicant's arguments, filed 11/18/2008, have been fully considered but they are not persuasive. The applicants are arguing in substance the following:

Arguments under 35 U.S.C. 102 (b)

***Arguments to Claim 1*:**

a) The prior art does not disclose the DHCP server is configured with a public IP address and the IP data channels are established via the DHCP.

Response to arguments of Claim 1:

As to point a: A global IP address is established in the home network, which suggests the DHCP has this same public address. THE DHCP handles the allocation pf private IP addresses throughout the IP channels as found in ([0048])

As to any claims not specifically discussed, the applicants argued that it was patentable for one of the reasons discussed above. Please see response to above arguments for unspecified discussions.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Moon- Jeong Choi (U.S. 2002/0040397).

With respect to Claim 1, Choi teaches establishing IP data channels (see 1st sentence of paragraph 34[The DHCP server 20 provides the devices within the home network 1 with unique identifiers (i.e., IP addresses)] and no. 20 of figure 3), a cluster management device (see 1st sentence of paragraph 34[The DHCP server 20 provides the devices within the home network 1 with unique identifiers (i.e., IP addresses)] and no. 20 of figure 3), network devices in the cluster (see LD1, LD2 and LD3 of figure 3), a network management device (see the lookup server no. 22 of figure 3 and the first sentence of paragraph 16[a lookup server for managing the plurality of devices]), wherein the cluster management device is configured with a public IP address([0058], where the DHCP has a global IP address); the network devices in the cluster are configured and updated with private IP addresses and routes by the cluster management device ([0048], where DHCP allocates the private IP addresses to the devices); managing the network devices in the cluster through said IP data channels via

the cluster management device by said network management device (see the first sentence of paragraph 41 [The lookup server 22 manages and provides registration information about the devices within the home network 1]).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 2-3 and 14 are rejected under 35 U.S.C. 103 (a) as being unpatentable over Choi in view of Dinker et al. (U.S. 7035858).

With respect to Claim 2, Choi teaches cluster management device configures and updates other network devices with private IP addresses and routes (see 1st sentence of paragraph 34[The DHCP server 20 provides the devices within the home network 1 with unique identifiers (i.e., IP addresses)]). However, Choi fails to explicitly teach configuring and updating network devices according to the topological architecture of the network and device information of the network devices in the cluster. Dinker does teach such a limitation. According to Dinker, dynamic cluster membership may be handled by a topology manager (lines 46 - 48 of column 2 [dynamic cluster membership may be handled by a topology manager]).

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to have combined the teachings of Choi with the teachings of Dinker to have cluster membership handled by a topology manager in order to have cluster membership configuring and updating according to the topological architecture of the network.

With respect to Claim 3, Choi and Dinker teach the limitations of claim 2 from which claim 3 depend. Choi does not teach cluster management device configures the other network devices with private IP addresses dynamically. However, Dinker does in fact teach such a limitation (see column 2, lines 46 and 47 [dynamic cluster membership may be handled by a topology manager]).

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to have combined the teachings of Choi with the teachings of Dinker to have cluster management device configure the other network devices with private IP addresses dynamically in order, as suggested by Dinker, to have "dynamic cluster membership may be handled by a topology manager".

With respect to Claim 14, Choi discloses an address translation module, adapted to perform network address translation for management messages of member devices ([0030]); Dynamic Host Configuration Protocol (DHCP)-like module, adapted to accomplish allocation of private IP addresses to member network devices ([0048]); a first cluster member management module, which is connected with the address translation module A11, the DHCP-like module A12, and adapted to manage member network devices in a concentrate manner (Figure 3), and to forward management

messages, which are from outside of the cluster and destined to member devices, to respective member devices to process, so that the member devices can process the management messages according to normal processing process ([0041] a lookup server for managing the plurality of devices);

a second cluster member management module, adapted to accomplish cluster management at the member device end ([0037], a service client for providing access to other devices);

Choi does not disclose a topological information processing module that includes a first topological information processing module, adapted to detect the topological architecture of network and to acquire the information of topological architecture of network within a specified number of hops in the network; and a second topological information processing module, adapted to accomplish detection of adjacent devices and response/forwarding of topology acquisition requests.

However, Dinker discloses a topological information processing module (Col. 3, lines 63-66) that includes a first topological information processing module, adapted to detect the topological architecture of network and to acquire the information of topological architecture of network within a specified number of hops in the network (Col. 4, lines 17-36); and a second topological information processing module, adapted to accomplish detection of adjacent devices and response/forwarding of topology acquisition requests (Col. 7, lines 10-37).

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to have combined the teachings of Choi with the

teachings of Dinker to have cluster membership handled by a topology manager in order to have cluster membership configuring and updating according to the topological architecture of the network.

7. Claims 4 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Choi in view of Poston (U. S. 2008/0162594)

With respect to Claim 4, Choi teaches one of the cluster management devices is responsible for managing the configuration and update of private IP addresses and routes of the network devices in the cluster (see 1st sentence of paragraph 34 [The DHCP server 20 provides the devices within the home network 1 with unique identifiers (i.e., IP addresses)]). However, Choi does not teach in case said cluster management device fails, one of the other cluster management devices is designated to be responsible for managing the configuration and update of private IP addresses and routes of the network devices. Poston does teach such a limitation. Poston teaches a backup system to counteract data loss (see the 2nd and 3rd sentences of the abstract [To counteract such loss of data a backup system may be employed. Common backup systems make a copy of either of the data on a storage device or the data, which has changed, on a storage device]).

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to have combined the teachings of Choi with the teachings of Poston to have one of the other cluster management devices to be designated to be responsible for managing the configuration and update of private IP

addresses and routes of the network devices in the cluster in case said cluster management device fails.

With respect to Claim 6, Choi teaches cluster management device establishes IP data channels via said cluster management device between the network devices in the cluster and said network management device with network address translation technology (see 2n~ sentence of paragraph 30[a translation is performed in the gateway 12 between a private IP address assigned to devices of the home network 1 and a public IP address]).

8. Claim 7 is rejected under 35 U.S.C. as being unpatentable over Choi, in view of Poston, and further in view of Dinker

With respect to Claim 7, Choi and Poston teach the limitations of claim 4 from which claim 7 depend. Choi also teaches step 1: designating a device in the network as the cluster management device (see paragraph 34, 1st sentence [The DHCP server 20 provides the devices within the home network 1 with unique identifiers (i.e., IP addresses)]) and configuring the device correspondingly by the network management device (see paragraph 41,2n~ sentence [the IP addresses allocated to the devices of the home network 1 are managed by the lookup server 22]).

In addition, Choi teaches step 4: adding the designated candidate devices to the cluster and configures the candidate devices correspondingly by the cluster management device, so as to make the candidate devices become member devices of

the cluster (see paragraph 14 [a Dynamic Host Configuration Protocol (DHCP) server for allocating a private IP address to the plurality of devices of the network system]). Finally, Choi teaches step 5: forwarding management messages which are from outside of the cluster and destined to the member devices through standard Network Address Translation (NAT)process to corresponding member devices (see paragraph 16 [a lookup server for managing the plurality of devices] and block 12).

However, Choi fails to explicitly teach step 2 (initiating a topology acquisition process to acquire information of topological architecture of the network). Choi also fails to explicitly teach step 3 (designating candidate devices to be added to the cluster in the topological architecture according to the information of topological architecture). Dinker does teach such limitations. Dinker teaches step 2 (see column 2, lines 27 - 30 [In one embodiment, topology management ensures that the dynamic cluster forms a topology tracking a specified topology arrangement]) and step 3(see column 2, lines 46 - 48 [dynamic cluster membership may be handled by a topology manager])).

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to have combined the teachings of Choi and Poston with the teachings of Dinker to compose a cluster through the following steps: (1) designating a device in the network as the cluster management device and configuring the device correspondingly by the network management device; (2) initiating a topology acquisition process to acquire information of topological architecture of the network within a specified number of hops in the network by the cluster management device; (3) designating candidate devices to be added to the cluster in the topological architecture

according to the information of topological architecture acquired from the cluster management device, and informing the cluster management device to start the cluster member device addition process by the network management device; (4) adding the designated candidate devices to the cluster and configures the candidate devices correspondingly by the cluster management device, so as to make the candidate devices become member devices of the cluster; (5) after the cluster is established, managing the member devices in the cluster by the cluster management device, and forwarding management messages which are from outside of the cluster and destined to the member devices through standard Network Address Translation (NAT) process to corresponding member devices to process, and processing the management messages according to normal processing process by the member devices. The motivation for doing so is to compose and efficiently manage such a cluster.

9. Claims 8-13 are rejected under 35 U.S.C. as being unpatentable over Choi, in view of Dinker, and Poston in view of well known practices in the art.

The limitations of claim 7 have all been discussed above. These references do not appear to explicitly address the specifics of claims 8 - 13. The activities recited in claims 8 -13 are well known housekeeping types of activities that are routine in the art and fail to provide any patentable distinction and Official Notice of such is taken. It would have been obvious to have modified the combination of Choi, Dinker and Poston discussed above to include the notorious housekeeping functions as recited in claims 8

- 13 in order to enable, maintain and administer routine management services as was well known at the time.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Esther Benoit whose telephone number is 571-270-3807. The examiner can normally be reached on Monday through Friday between 7:30 a.m and 5 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Caldwell can be reached on 571-272-3868. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

E.B.
January 12, 2009

/Andrew Caldwell/
Supervisory Patent Examiner, Art Unit 2442